



**Coronation Street, South Shields,  
Tyne and Wear**

**archaeological evaluation**

*on behalf of*  
**ARCUS**

**Report 1396**

February 2006

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## **1. Summary**

### ***The project***

- 1.1 This report presents the results of an archaeological evaluation conducted in advance of a proposed development at Coronation Street, South Shields. The works comprised the excavation of three evaluation trenches to the south of Coronation Street.
- 1.2 The works were commissioned by Archaeological Research and Consultancy at the University of Sheffield (ARCUS), and conducted by Archaeological Services in accordance with a specification provided by ARCUS and a project design provided by Archaeological Services.

### ***Results***

- 1.3 Two of the evaluation trenches were situated within St Hilda's graveyard, which had been truncated by the realignment of Coronation Street and the construction of a sewage pumping station. A number of broken gravestones, pieces of grave furniture, and large quantities of disarticulated human bone were recovered from these trenches, indicating a high level of past disturbance.
- 1.4 Fourteen graves were revealed in one of the trenches, relating to at least two phases of burial activity dating to the eighteenth and early nineteenth centuries. The graves contained articulated well preserved skeletons at depths of between 5.1m and 5.7m OD.
- 1.5 A single trench was excavated directly to the north of Mill Dam which revealed the foundations of a substantial industrial structure and contaminated ground water at a depth of 0.8m below ground level. It was not possible to determine whether earlier archaeological features survived beneath these deposits.
- 1.6 The majority of finds dated to the eighteenth and early nineteenth centuries. These included a group of metal objects from St Hilda's graveyard, which consisted of coffin furniture and shroud pins. Some of the coffin fittings had wood and fabric still attached. A quantity of material relating to post-medieval glass-making was also recovered.

### ***Recommendations***

- 1.7 Further burials are likely to exist in the area between Coronation Street and Old Coronation Street. Any excavation below 6m OD is likely to disturb intact burials, the excavation of which would require a Home Office Licence. Should further excavations recover discrete skeletons then it is recommended that these and the disarticulated material be analyzed.
- 1.8 Given the quantity of disarticulated human bone present in the area of St Hild's graveyard, it is recommended that any future ground disturbance in this area should be subject to archaeological monitoring.

- 1.9 The coffin furniture should be conserved, drawn, analyzed and published, as assemblages of this kind are rare in the north east of England.
- 1.10 A number of the human bones recovered are of scientific value, and it is suggested that a sample of these is retained by Durham University as teaching material. Following completion of the project, the remainder should be reinterred in a burial ground in which interments may legally take place.
- 1.11 The excavation of additional evaluation trenches could provide information regarding the early history of the Mill Dam area. These should be located to the west of the car park in the area of the derelict warehouses in order to avoid the site of the former gas works.

## **2. Project background**

### ***Location (Figure 1)***

- 2.1 The site is located at Coronation Street, South Shields, in the Metropolitan Borough of South Tyneside, Tyne and Wear (NGR: NZ 3615 6700). The site covers an area of *c.*2.4ha, and is bounded by Coronation Street to the north, Station Road to the west and Garden Lane to the east.

### ***Development proposal***

- 2.2 The development proposal is to construct an ASDA store and car park, with associated services, access roads and landscaping.

### ***Objective***

- 2.3 The objective of the evaluation was to assess the nature, extent, depth and preservation of any surviving archaeological features (including possible human remains) within the proposed development area, so that an informed decision may be made regarding the nature, and scope of, any further scheme of archaeological works that may be required in advance of development.

### ***Methods statement***

- 2.4 The works have been undertaken in accordance with a specification provided by ARCUS (Appendix 4) and a project design provided by Archaeological Services (DS 05.258). A Home Office License was granted for the removal of human remains (06-0003).

### ***Dates***

- 2.5 Fieldwork was undertaken between 10<sup>th</sup> and 19<sup>th</sup> January 2006. This report was prepared between 25<sup>th</sup> January and 8<sup>th</sup> February 2006.

### ***Personnel***

- 2.6 Fieldwork was conducted by Marc Astles, Janet Beveridge and Paul Morrison, and supervised by Alan Rae and Martin Railton. This report was prepared and illustrated by Martin Railton. Specialist analysis was conducted by Dr Chris Cumberpatch (ceramics), Daniel Still (clay tobacco pipes), Alejandra Gutiérrez (metal), Anwen Caffel (human bones), Jennifer Jones (X-

radiography) and Jenny Vaughan (glass). The Project Manager was Daniel Still.

#### ***Archive/OASIS***

- 2.7 The site code is **CSS06**, for **Coronation Street, South Shields 2006**. The archive is currently held by Archaeological Services and will be transferred to the Museum of Antiquities, Newcastle upon Tyne in due course. Archaeological Services is registered with the **Online Access to the Index of archaeological investigationS** project (OASIS). The OASIS ID number for this project is **archaeol3-12692**.

### **3. Landuse, topography and geology**

- 3.1 At the time of the evaluation the proposed development area consisted of derelict warehouses on the west side of the site and a car park on the east side. Old Coronation Street was situated on the north side of these buildings. The proposed development area was predominantly level with a mean elevation of *c.* 5.1m OD. A wide bank, planted with trees and shrubs, was located along the northern boundary of the site. The ground rose sharply along this boundary by as much as 3m to the level of Coronation Street. A sewage pumping station was situated on the northern side of the proposed development area.
- 3.2 The proposed development area lies in the centre of South Shields close to the west bank of the River Tyne, and is located *c.* 62m to the south of St Hilda's Church. Coronation Street separates the present church grounds from the proposed development area, but the original graveyard boundary is within the northern part of the site. In addition, Mill Dam Creek, a former tidal inlet, is known to have traversed the proposed development. This was in-filled during the nineteenth century using a ballast hill from north of the inlet.
- 3.3 The solid geology of the area consists of Carboniferous Coal Measures and Magnesian Limestone, overlain by deposits of glacial boulder clay. Within the boulder clay are lenses of alluvial sand and gravel. The depth of boulder clay increases with proximity to the river where it can reach a depth of 12m.

#### ***Archaeological Significance***

- 3.4 The in-filling of Mill Bank Creek and inland ballast dumping have significantly altered the natural contours of the landscape. It is possible that medieval or earlier riverside settlement may be preserved on the banks of this former inlet.
- 3.5 The southern boundary of the St Hilda's graveyard lies within the north side of the proposed development area and corresponds to the alignment of Old Coronation Street.

#### **4. Historical and archaeological background**

- 4.1 A desk-based assessment of the proposed development area has been undertaken and indicates that the site has been continuously occupied since the at least the early medieval period (Inkster and Speak 1998). A summary of the historical and archaeological background is given below.

##### ***The prehistoric period (up to AD 70)***

- 4.2 Nothing is known about prehistoric activity in the vicinity of the proposed development area, however it is possible that the River Tyne was utilised in prehistory. Pre-Roman settlement activity has been identified beneath the nearby Roman fort of *Arbeia* but no extensive features have been identified.

##### ***The Roman period (AD 70 to 5<sup>th</sup> Century)***

- 4.3 *Arbeia* Roman fort was situated on Lawe Top, which is located 1km to the northeast of the proposed development area. A civilian settlement and a port were also situated in South Shields. The exact location of the port is unknown, but it is possible that it was in the area of Mill Dam or further north (Archaeological Services 2001).

##### ***The medieval period (5<sup>th</sup> century to 1540)***

- 4.4 Following the abandonment of the Roman fort, the focus of settlement may have shifted to the riverside close to the Mill Dam area. The riverside played a fundamental role in the development of South Shields from the medieval period onwards. The early riverside frontage was situated further inland from that of the present day.
- 4.5 An Anglian nunnery, founded by Abbess Hild in 647AD, occupied the same location as the present St Hilda's Church and is thought to have survived for several centuries before being destroyed by invading Danes. A church has existed on the site since Norman times and is mentioned in accounts from 1093 onwards.
- 4.6 The early town developed along a street on either side of Mill Dam during the medieval period and remained there until the later eighteenth century. Mill Dam consisted of a tidal creek, which formed a lake when the tide was high. A corn mill is believed to have existed on the western bank of the Mill Dam inlet.

##### ***The post-medieval period (1541 to 1899)***

- 4.7 The development of South Shields in the post-medieval period involved the reclamation of land along the river and in the Mill Dam area. The landscape was also altered by the dumping of ship's ballast and industrial ash waste from the salt-panning industry. Mill Dam was completely in-filled c.1816 using this material. During the nineteenth century a railway tunnel, gas works and the South Shields Charity School were built within the proposed development area. The gas works dominated the site at the end of the nineteenth century. The first edition Ordnance Survey map of 1897 shows a glass works near the northwest corner of the site.

- 4.8 In 1805 St Hilda's graveyard had become over-crowded and was eventually heightened using material from a nearby ballast hill in 1816. Map evidence suggests that the southern boundary of this graveyard was on the north side of Old Coronation Street (the original alignment of Coronation Street) in 1827. The cemetery went out of use in 1856.

***The modern period (1900 to present)***

- 4.9 South Shields was subjected to extensive bombing during the Second World War resulting in the refurbishment of the Market Place and the St Hilda's Church area between 1954 and 1966.
- 4.10 Coronation Street was built on its present alignment in the 1960's cutting across the southwest corner of the former St Hilda's graveyard, which had been cleared of gravestones by this time.

***Previous archaeological works***

- 4.11 A desk-based assessment was undertaken by Tyne and Wear Museums prior to the evaluation (Inkster and Speak 1998). No other archaeological works had previously been undertaken within the proposed development area.

**5. The evaluation trenches**

***Introduction (Figure 2)***

- 5.1 Three evaluation trenches were excavated within the proposed development area, the locations of which were indicated in the project brief supplied by ARCUS. The exact trench locations were chosen to avoid existing structures and services. A CAT survey was undertaken at each trench location prior to excavation. Trench 1 and Trench 3 were situated on the bank on the north side of the site, immediately south of Coronation Street. Both were located within the former graveyard in order to determine the extent of the cemetery and the nature of any surviving human remains. The client cleared this area of trees and undergrowth before excavation commenced. Trench 2 was situated at the western end of the car park, immediately north of the former Mill Bank Creek, to seek evidence for possible medieval or earlier settlement in this area. All three trenches were excavated by machine under close archaeological supervision. Archaeological features were subsequently cleaned and recorded by hand.

***Trench 1 (Figure 3)***

- 5.2 Trench 1 consisted of a reversed L-shaped trench measuring 16.2m by 2.5m, with a wider eastern end measuring 5m by 5m. The trench was east of the sewage pumping station, with Coronation Street to the north, and Old Coronation Street to the south. The trench was excavated to a depth of 1.2m below ground level (bgl). Two sondages were subsequently excavated by machine at the eastern and western ends to a depth of 2.2m bgl. Natural subsoil was not reached in this trench.

- 5.3 Grey silty clay [6] was reached at a depth of 1.8m bgl. This contained disarticulated human bone and fragments of grave furniture. Above this was a 0.46m deep layer of re-deposited grey silty sand [5] containing disarticulated human bone (see Section 7 below). Immediately above this, at a depth of 1.1m bgl, was made ground consisting of a deposit of grey silty sand [4] measuring 0.7m deep, containing brick rubble and mortar. Above this was a 0.2m layer of red crushed brick [3]. A 0.9m-thick layer of yellow gravel [2] was identified at the southwest corner of the trench at a depth of 0.4m bgl. This is probably bunding from the construction of the nearby sewage pumping station (Figure 5). Immediately above this layer and the crushed brick [3] was a 0.4m-deep layer of topsoil [1]. No archaeological features were identified in this trench; however a number of unstratified gravestone fragments were recovered (Figure 6).

#### ***Trench 2***

- 5.4 Trench 2 was situated in the northwest corner of the car park, south of Trench 1, and consisted of an L-shaped trench measuring 22m by 3.5m, with a wider western end measuring 8.5m by 7m. Contaminated ground water flooded the trench at a depth of 0.8m bgl. A sondage was excavated to a depth of 1.5m at the centre of the trench; however natural subsoil was not identified.
- 5.5 The concrete foundations [9] of a substantial structure were encountered at a depth of 0.7m bgl. These consisted of two rows of concrete slabs with fixed steel girders, running northeast to southwest across the trench. A concrete surface [10] was encountered at a depth of 0.45m bgl at the western end of Trench 2 (Figure 7). Immediately above and between these foundations was a loose deposit of brick rubble [8] of unknown depth, above which was a 0.25m depth of tarmac [7] forming the surface of the car park. No archaeological deposits or finds were found in this trench.

#### ***Trench 3 (Figures 3& 4)***

- 5.6 This trench was 18m long, 4m wide at the west end and 7m wide at the east end, with stepped sides (Figure 8). The trench was excavated to a depth of 3m bgl at the eastern end. Trench 3 was situated at the northwest corner of the proposed development area, 40m to the west of Trench 1.
- 5.7 Natural subsoil consisting of a lens of orange-yellow sand [46] was revealed at a depth of 2m bgl (6m OD) at the centre of the trench. Above the natural was a 0.4m depth of grey silty sand [15] containing disarticulated human bone, glass, metal and pottery. Fourteen rectangular graves cut this layer; all were aligned approximately east-west. The graves were cleaned and recorded by hand but were not excavated. Articulated skeletons were identified in four of the graves. The human remains were in a good state of preservation. Although no coffins could be identified, a number of nails were recovered (see Section 6.16 below).
- 5.8 Grave 1 [F20] measured 1.8m by 0.5m and was located on the northern side of the trench. It was filled with yellow-brown silty sand [19] and had been cut by Grave 2 [F18] at the northeast corner. Grave 2 measured 2.05m by 0.2m and was also filled by yellow-brown silty sand [17]. Both Grave 1 and Grave 2 had



been truncated on the north side by a modern service pipe trench [F16] of unknown depth, which ran along the northern edge of Trench 3 (Figure 9). Grave 3 [F25] was 0.5m south of Grave 1 and measured 1.7m by 0.6m. This was filled with brown silty sand [24] and cut on the southeast corner by Grave 4 [F23]. Grave 4 measured 1.9m by 0.5m and ran into the southern baulk of Trench 3. It was also filled with brown silty sand [22]. Grave 5 [F29] was at the centre of the trench and measured 1.5m by 0.6m. The eastern end of this grave was not visible, as the grave fill [28] was indistinguishable from the surrounding material [15]. Grave 6 [F27] measured 1.2m by 0.5m and cut the north side of Grave 5. Like Grave 5, the eastern end of this grave could not be identified as the grave fill [26] was indistinguishable from the surrounding material.

- 5.9 Towards the eastern end of Trench 3 the depth of graveyard soil [15] increased and was excavated to a depth of 3m bgl. Although graves were present in this area, the material filling the graves was indistinguishable, in places, from the surrounding soil. The cut of Grave 7 [F45] could only be identified in section at the centre of the trench; it measured 1.2m in length. The grave contained grey silty sand [44] and human remains consisting of the left side of a torso and the right side of a damaged skull. Grave 7 was truncated on the south side by Grave 8 [F43], which measured 1.2m in length and was filled by grey silty sand [42]. This grave was also only visible in section. Grave 9 [F41] was identified through the presence of a human skeleton, of which only the skull and right shoulder were exposed [40]. Grave 9 was cut by another burial, Grave 10 [F39], on the south side. Grave 10 and was filled by grey silty sand [38] and was identified by the presence of a skull, which protruded from the trench section.
- 5.10 A further four graves were revealed at the western end of the trench (Figure 10). Grave 11 [F37] measured 2.4m by 0.6m and was filled by grey silty sand [36] containing fragments of disarticulated human bone. This grave was cut on the north side by Grave 12 [F31], and cut on the south side by Grave 13 [F33]. Grave 12 measured 1.9m by 0.5m and was filled by grey silty sand [30] containing a human burial, of which only the skull was visible. Grave 13 [F33] measured 2.00m by 0.5m and was filled by grey silty sand [32] containing disarticulated bone. Grave 14 [F35] was located to the south of these graves and ran into the western baulk of the trench. This grave measured 1m by 0.5m and was filled with the same grey silty sand [34].
- 5.11 Filling the service pipe trench [F16] was yellow sand [21] and a lining of geotextile, above which was coarse grey gravel [14] at least 0.7m deep. Above the gravel, at a depth of 1m bgl, was a 0.85m depth of made ground consisting of grey sandy loam [13] containing a number of gravestone fragments (see Section 6.22 below). Above this, at the west end of the trench, was a 0.2m depth of crushed red brick [12], above which was 0.25m of dark brown silty sand [11] containing brick rubble and mortar. The entire length of the trench was covered with 0.4m of topsoil [01].

### ***Discussion***

- 5.12 The deposits in Trench 1 were consistent with the context of a disturbed graveyard soil, containing large quantities of disarticulated human bone and fragments of grave furniture. It was not possible to identify articulated burials in this area due to the restricted nature of the trench and the depth of the deposits. However it is likely that these survive at a greater depth than was reached by the evaluation trench.
- 5.13 Trench 3 revealed a high density of graves indicating at least two phases of burial activity, although the nature of the grave fills made identification difficult in parts of the trench. The distribution of burials suggests that a standard distance of 20 inches was maintained between contemporary graves.
- 5.14 The deposits in Trench 2 were consistent with the foundations of a large industrial structure, probably connected to the gas works. Ground conditions meant it was not possible to determine whether earlier deposits survived beneath these foundations.
- 5.15 No archaeological deposits suitable for environmental assessment were encountered in any of the trenches

## **6. The finds**

### ***Pottery assessment***

- 6.1 The pottery assemblage was examined on 27<sup>th</sup> January 2006. It consisted of twenty sherds of pottery and ceramic building material from a maximum of eighteen vessels. The objects recovered from two stratified contexts and an unstratified group. The data are summarized in Table 2.1 with notes on individual items.
- 6.2 The pottery assemblage is dominated by material of recent date (later nineteenth and early twentieth century), but includes a small number of sherds of an earlier date, notably a piece of a Tin Glazed Earthenware vessel (unstratified) and a small piece of a post-medieval Sandy ware from context 15. The later pottery includes domestic tablewares, utilitarian and sanitary wares and a sherd from a crucible. The crucible appears to be of a type used in the manufacture of glassware but given the nature of the deposits it could have been brought to the site from a considerable distance away and may not be an indicator of activity on the site.
- 6.3 With the exception of the crucible sherd, the pottery assemblage is consistent with the formation processes observed at the site, namely the re-deposition of graveyard soil during the late eighteenth to nineteenth century, and early twentieth century disturbance.

### ***Clay tobacco pipes***

- 6.4 A total of 18 pieces of clay tobacco pipe were recovered. These included two complete bowls. The assemblage is detailed in Table 2.2.

- 6.5 Of the pipes with complete bowls, one had scallop and dot decoration, and the other was plain apart from milling around the rim and 'Dublin' impressed on the back of the bowl. The assemblage is late nineteenth/early twentieth century in date. One stem fragment with a flat heel is probably of seventeenth/early eighteenth-century date.
- 6.5 No further work is recommended on the clay tobacco pipe assemblage, but it should be retained as part of the site archive.

#### **Conservation**

- 6.7 76 objects were received for examination, conservation assessment and X-radiography, comprising 53 pieces of glass/glass waste, seven copper alloy objects and 16 iron objects. The objects were briefly visually examined to assess their condition, to determine the material from which they were made, and to look for surface and technological detail.
- 6.8 All the material was found to be stable, when examined. The copper alloys were variable, from lightly to highly corroded. The iron was moderately to highly corroded.

*lightly corroded* metallic material is defined as having a thin, often compact corrosion surface, sometimes with good patination, which obscures little of the object's form or surface detail. There is significant metal remaining below the corrosion surface.

*moderately corroded* metallic material is defined as having the surface detail, but not usually the general form of the object, obscured by corrosion products, and has some metal remaining below the corrosion.

*highly corroded* metallic material is defined as either having both the form and the surface detail of the object obscured by corrosion, and/or having little or no metal remaining in its core.

- 6.9 Details of the artefacts examined were entered into a database which includes the context, identification of the material and of the object, where possible, the condition of the object when examined, its XR plate number, and any technological or other observations (Table 2.3).
- 6.10 The objects were sorted into groups of a similar density, which were X-rayed together. Six XR plates were used. The objects seem to be mainly nails or fragments of coffin fittings and furniture. The large piece of coffin furniture from context 6 is an interesting construction of iron, white metal plating, textile and wood.
- 6.11 The two pieces of coffin furniture from context 6 (one wet) would benefit from further microscopic examination and EDXRF analysis, to clarify details of their construction and to identify plating alloys. The piece of wet wood

from context 6 with attached CuA studs must be conserved by freeze drying if it is to be retained and deposited with the site archive.

### ***Glass***

- 6.12 Fortynine fragments of glass and one sherd of ceramic furnace material were recovered from the excavations. All of the material was recovered from Trenches 1 and 3. The items in the assemblage are listed in Table 2.4. Most of the fragments were glass making waste.
- 6.13 The material from Trench 1 comprised only glass waste, which is not intrinsically dateable. The unstratified bottle fragments from Trench 3 can be broadly dated to the second half of the 19<sup>th</sup> century. The beer bottle from this trench was probably made before 1872 as the lip is for a wired-on cork. The internal screw stopper was invented in 1872 (Hedges 1975, 11) and is said to have rapidly superseded the cork stopper (Chard and Cranstone 1997, 76).
- 6.14 The glass-making waste may be from the local glass works and thus its presence is of some interest. However, the largest quantity was unstratified and the rest came from redeposited contexts, and therefore cannot be linked to a specific manufacturer or date. This, combined with the small size of the assemblage, mean there is no potential for further analysis. A sample of the glass-making waste should be retained with the site archive.

### ***Metal***

- 6.15 All the metal finds from the excavation (except a modern cigarette lighter from context 5) are coffin furniture/fittings and shroud pins associated with human burial. Only two of the objects were recovered from a sealed context (context 6); the rest were unstratified (Table 2.5).
- 6.16 Among the finds were two coffin grips or handles. One of them (from context 6) still retained surrounding decoration, wood fragments and parts of textile that would have been used to cover the exterior of the coffin. The second coffin grip (unstratified) was smaller in size, and might have been placed at the end of the box, rather than the side. A fragment of wood with upholstery pins attached was also found. The other nails recovered, and the single screw, would have been used to attach the lid and base of the coffins. Three shroud pins (one broken in two) with textile still attached were also found.
- 6.17 The metal finds are an interesting, if small, group of items. Coffin furniture from archaeological excavations is very scarce in the north east of England, but has the potential to illustrate trends in burial practice and provide comparative material with others parts of the country, for example, Spitalfields in London (Reeve and Adams 1993), and Glasgow (Richmond and Baines 2002). A check should be made with local Record Offices to see whether local trade catalogues for coffin furniture survive for the region.
- 6.18 The metal finds from this excavation should be cleaned, conserved, drawn and analyzed in full. Wood species should be identified, as types used for coffins changed through time and were indicative of social status. This material should be published in a local journal.

### ***Animal Bone***

- 6.19 A very small collection of animal bones was recovered from Trenches 1 and 3. Most were unstratified finds but Trench 3 produced finds from context 15, made ground. The identifiable fragments are detailed in Table 2.6.
- 6.20 The species present are cattle, sheep/goat, pig, horse and cat. The majority of the finds appear to derive from domestic household consumption. The cat bones appear to be part of a disturbed burial of an immature animal. There is an admixture of finds in good condition and rolled or weathered finds, to be expected in such mixed deposits. The size of some of the cattle, sheep and pig bones suggests the presence of relatively recent “improved” stock. No saw marks were seen, only chop marks.
- 6.21 No further work is possible on such a small collection of bone of mixed origin.

### ***Gravestones***

- 6.22 A total of six gravestones were recovered from Trench 1 and Trench 3, including one tombstone and five headstones. All were made of sandstone and were in a broken and incomplete state. These were recorded before being reburied at the western end of Trench 3 at a depth of 2m bgl. The gravestones are detailed in Table 2.7.
- 6.23 One tombstone was recovered from Trench 1 in three separate pieces. This was a 0.1m thick slab with a bevelled upper edge. It was made of fine quality yellow sandstone which exhibited significant blackening from pollution on its upper surface. The bases of four broken headstones were recovered, three of which had tooled panels at the bottom which would have been buried in the earth to give stability. One headstone top was retrieved from Trench 3 in three pieces, with an upper chamfered edge. None of the stones bore inscriptions.
- 6.24 The condition of the stones suggests that they had been deliberately discarded, probably when the graveyard was cleared of monuments. It is significant that none of the stones were inscribed and that mainly bases were recovered.
- 6.25 Comparisons with surviving complete headstones next to St Hilda’s Church suggest that the broken stones date to the late eighteenth/early nineteenth century.

## **7. The human bone**

### ***Introduction***

- 7.1 Four boxes of disarticulated bone were presented for assessment. These contained material from contexts 5, 6, and 15, and unstratified material from Trenches 1 and 3. In total there were 40 bags of human bone, containing between c.400-550 fragments. Most of the material was recovered from Trench 3. The quantities of human bone recovered are detailed in Table 2.8.

### **Results**

- 7.2 Preservation of human skeletal remains is assessed subjectively, depending upon the severity of bone surface erosion and post-mortem breaks. Surface preservation was assessed using the seven-category grading system defined by McKinley (2004), ranging from 0 (excellent) to 5+ (extremely poor). Excellent preservation implied no bone surface erosion, and a clear surface morphology, whereas extremely poor preservation indicated heavy and penetrating erosion of the bone surface resulting in complete loss of surface morphology and modification of the bone profile. The range of preservation seen within each context, as well as the preservation category into which most of the bone could be placed, are given in Table 2.8.
- 7.3 A range of preservation grades was seen in the bone from this site, from excellent (grade 0) to extremely poor (grade 5+). However, most of the bone was considered to be grade 2 (good), with fairly limited surface erosion, and some areas where the erosion had penetrated deeper into the bone. The bone from Trench 3 possibly had a tendency to be slightly less well preserved, with more bone in the grade 3 (moderate) category (most of the surface affected by some degree of surface erosion with some loss of surface detail).
- 7.4 Overall the bone cortex was solid, although there was a tendency for the surface to flake in places. Where surface erosion was present it usually only affected a small area of the bone, and the surface detail was generally visible. Patches of green staining were seen on some of the bones, probably as a result of contact with copper objects. A fair proportion of the bone was intact or nearly so, but some degree of fragmentation was present. Several bones that do not normally survive well were present, and in remarkably good condition, including the blade of the scapula and fragile parts of the skull (such as the ethmoid and vomer).
- 7.5 A wide range of bone elements were present in all contexts. These included cranial fragments, mandibles, vertebrae, ribs, pectoral and pelvic girdles, upper and lower limb bones, and bones from the hands and feet. Most of the bones were those of adults, but bones from non-adults were present in contexts 6, 15 and the unstratified material from Trench 3. The latter included some foetal or neonate bones, as well as bones from older children.

### **Discussion**

- 7.6 Because this material is disarticulated, and there is no information on complete individuals, there is limited the potential for further analysis. In addition, the date of the material is unknown, although it is suspected to be eighteenth or nineteenth century. However, it would be possible to gain some information from further analysis, including the minimum number of individuals represented by the material. It would also be possible to determine the sex and/or the age-at-death of some of the skull and pelvic fragments, and estimate the age-at-death of the complete non-adult long bones. Some of the bones (c.5-10%) displayed pathological changes, which could provide limited information on the health of the population. Evidence of dental disease, which relates to diet and oral hygiene, could be recorded for the dentitions present. Some of the bones, especially the pathological ones, could prove useful

additions to the teaching material curated at the Fenwick Laboratory, University of Durham.

- 7.7 The general good condition of the bone suggests that any further excavation in the cemetery will produce well-preserved material for analysis.

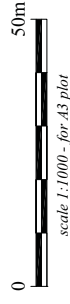
## **8. Conclusions**

- 8.1 Trench 3 has confirmed that the area between Coronation Street and Old Coronation Street was formerly part of St Hilda's graveyard, and that intact graves survive in this area. Disturbance to these graves has resulted in the large quantity of disarticulated human bone recovered from Trench 1 and Trench 3. Landscaping has removed any traces of the original cemetery boundary and grave stones.
- 8.2 Articulated human skeletons survive in the area of Trench 3 at depths between 5.1m to 5.7m OD. It is likely that intact burials also survive in the area of Trench 1. The proposed development has the potential to impact upon these remains through the provision of services and landscaping.
- 8.3 The majority of the finds date from the eighteenth and nineteenth centuries and are not of sufficient quality or quantity to warrant additional analysis. The metal finds, however, form an interesting group of coffin furniture which justify further conservation, analysis and publication.
- 8.4 The disarticulated nature of the human bone recovered from Trench 1 and Trench 3 means that its potential for further analysis is limited. However, some of the pathological bones could provide useful teaching material. The remainder should be reinterred in the burial ground at the Church of St Hilda.
- 8.5 It was not possible to determine the presence or absence of archaeological features in the vicinity of Mill Dam due to the foundations of a substantial industrial structure and the presence of contaminated ground water in Trench 2.

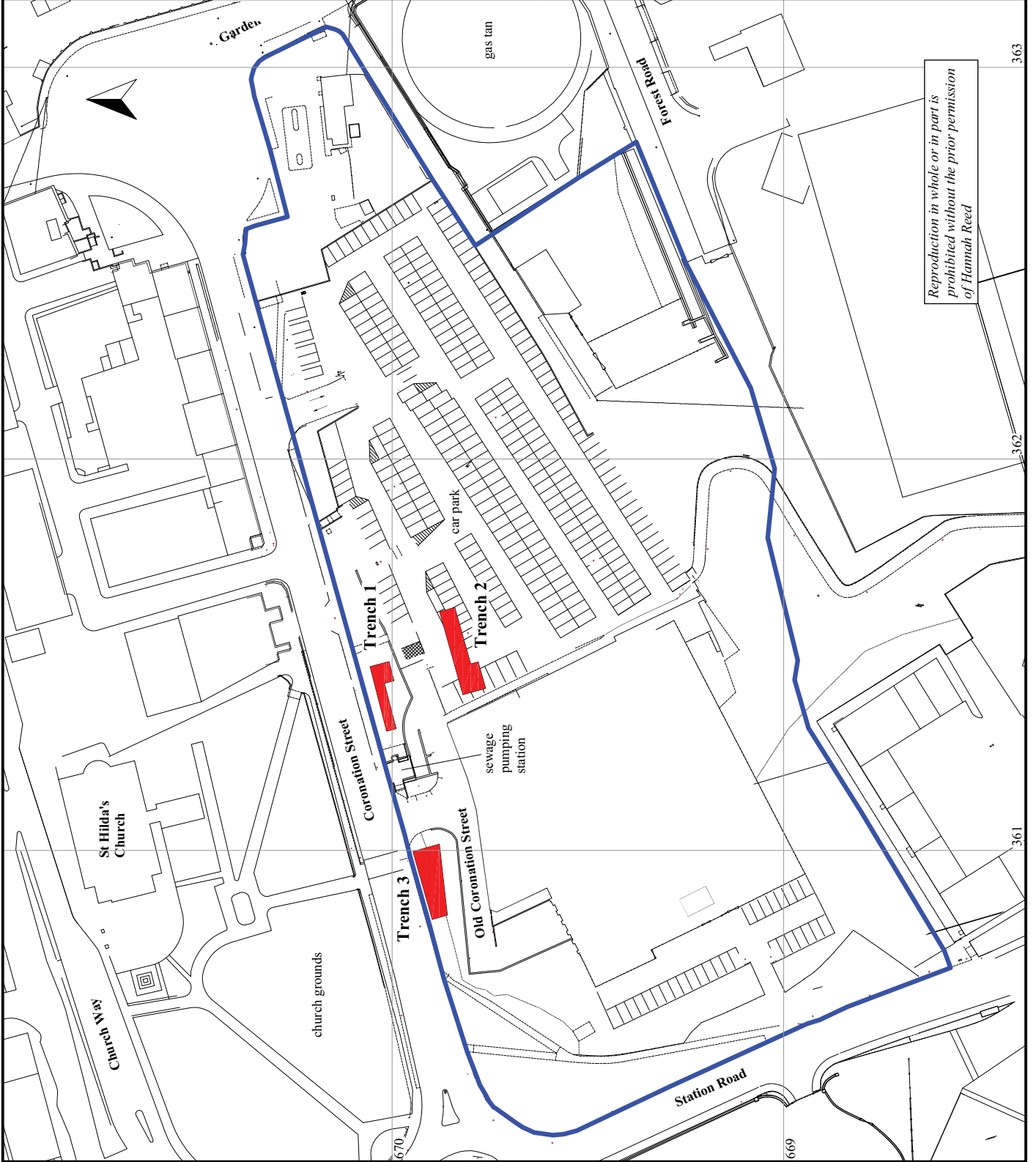
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- evaluation trench
- outline of proposed development area



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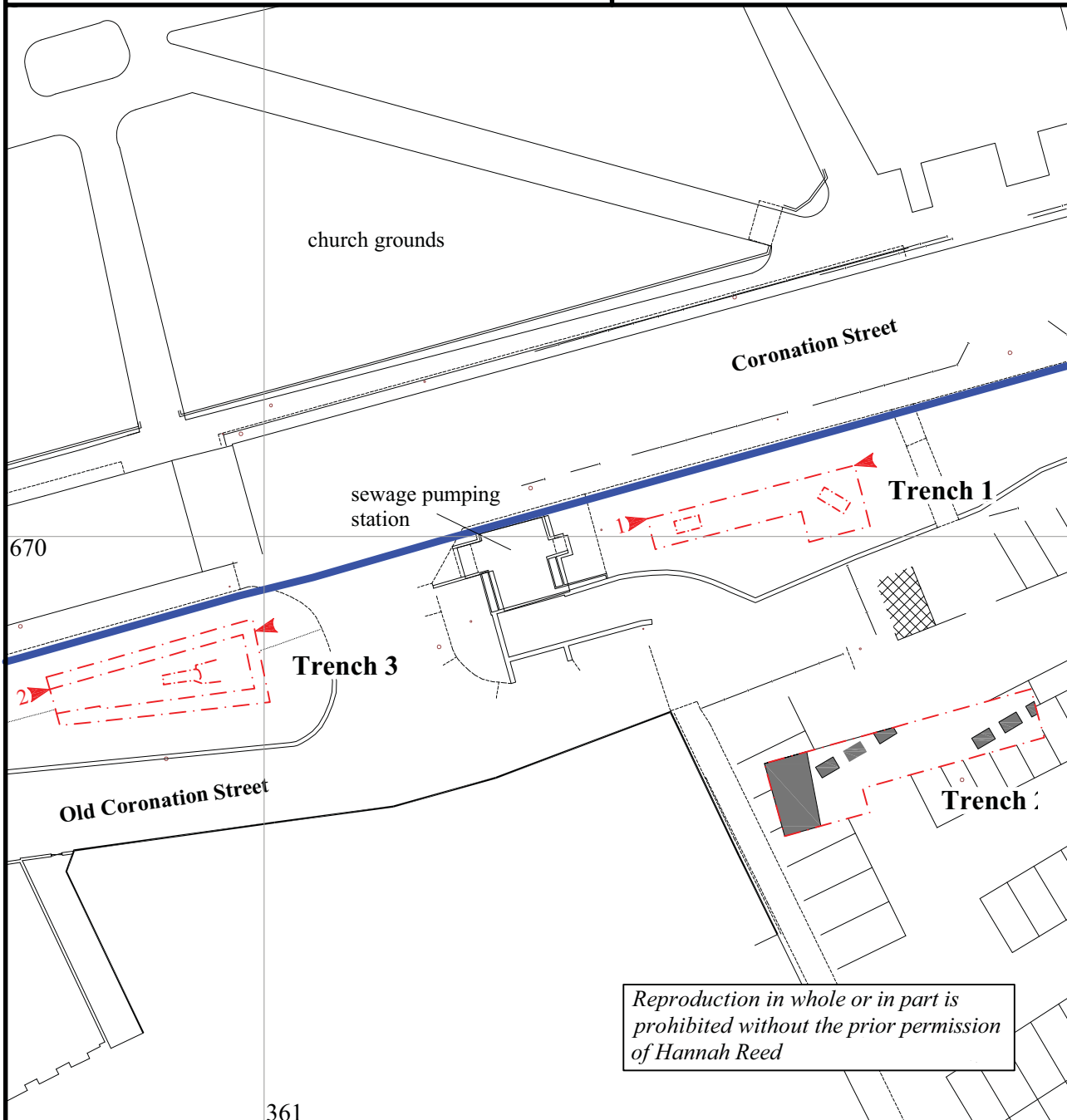
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Figure 2 *The evaluation trenches*

on behalf of  
**ARCUS**



scale 1:500 - for A4 plot



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outline of proposed development area



line of section



limit of excavation



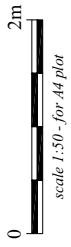
concrete





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**ARCUS**

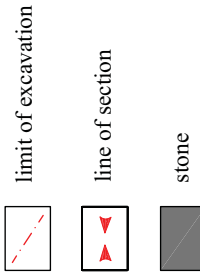


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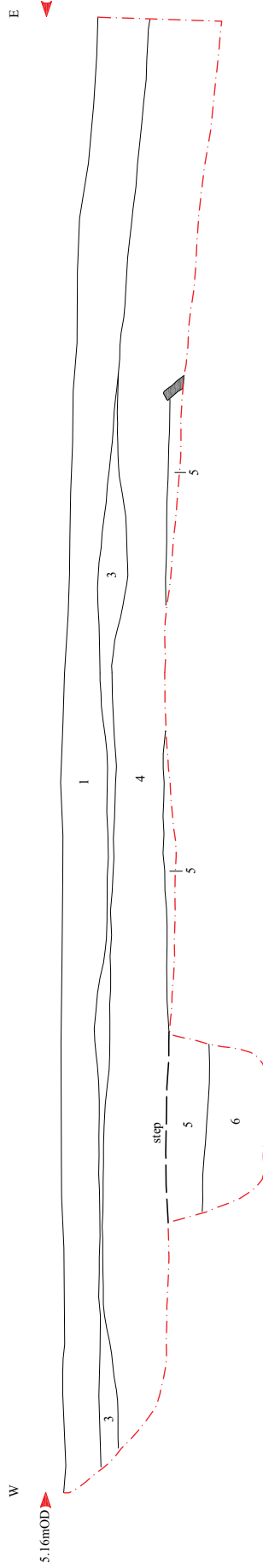
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Figure 3

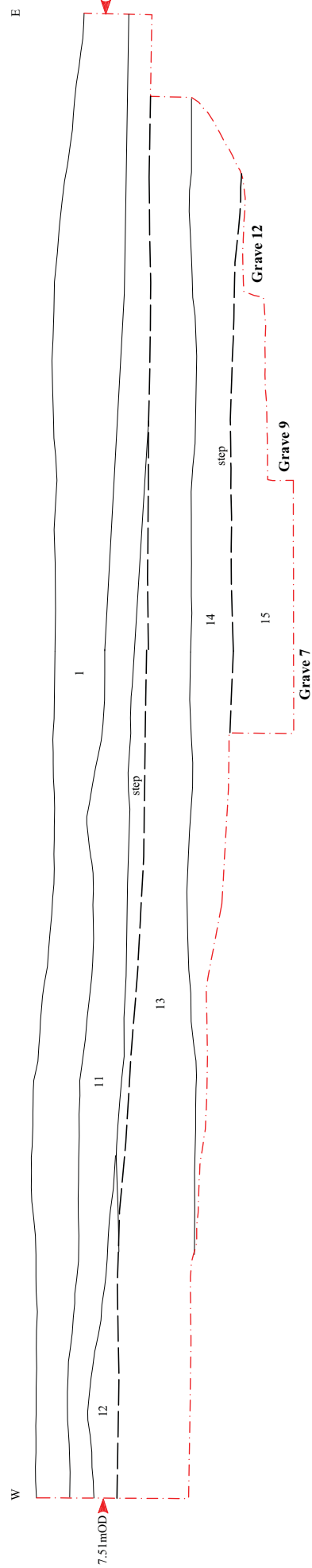
Sections of Trench 1 and Trench 3



### Section 1, Trench 1



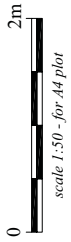
### Section 2, Trench 3





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**ARCUS**



- limit of excavation
- line of section
- bone

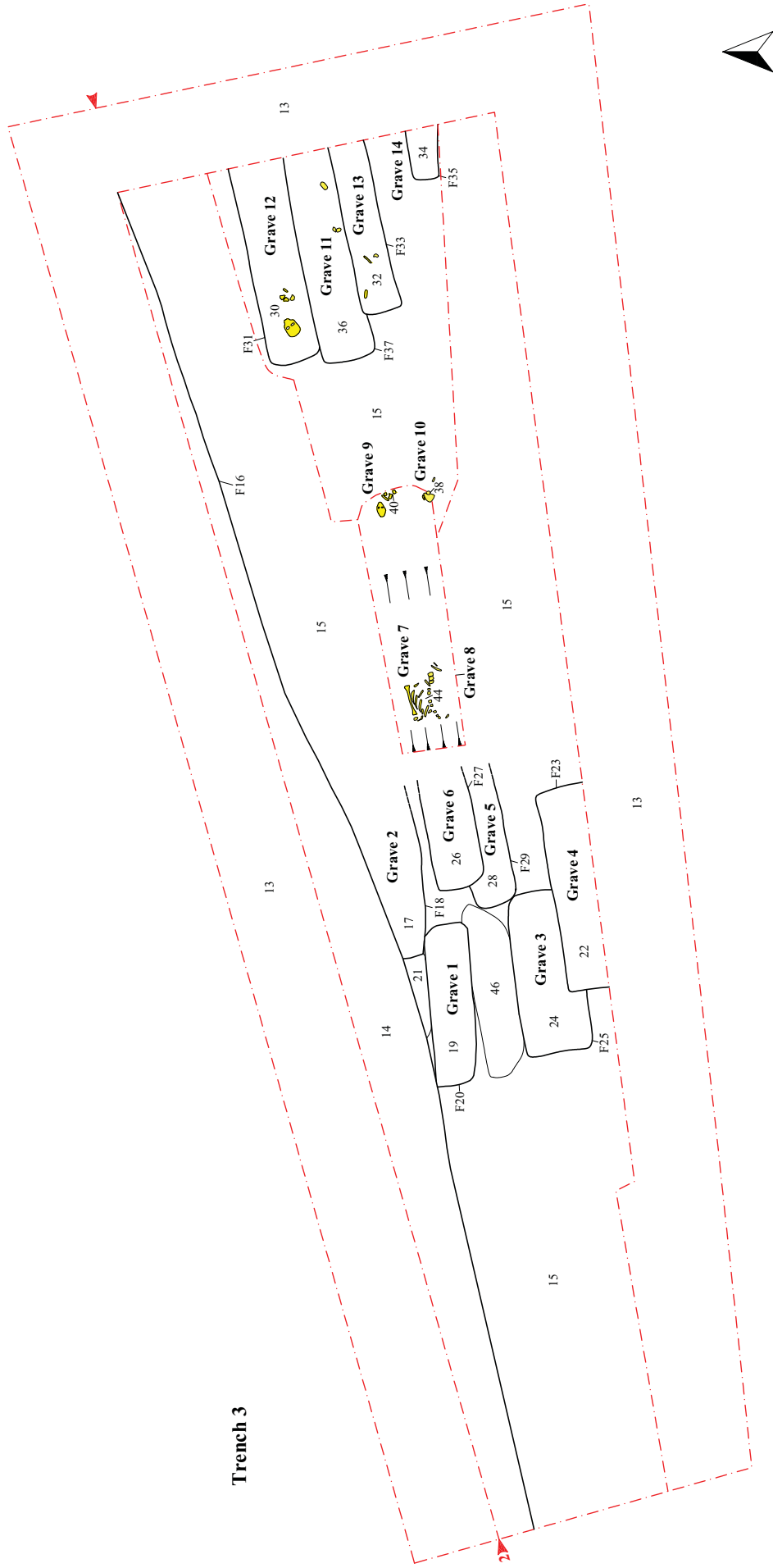
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Tyne and Wear,  
archaeological evaluation

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Figure 4

Plan of Trench 3

### Trench 3





**Figure 5**  
Made ground in Trench 1  
(looking east)



**Figure 6**  
Gravestone fragments  
recovered from Trench 1



**Figure 7**  
Concrete foundations in  
Trench 2 (looking east)



**Figure 8**  
Working shot of Trench 3,  
looking east towards the  
sewage pumping station



**Figure 9**  
Grave cuts in Trench 3 with  
the service pipe trench  
behind (looking north)



**Figure 10**  
Graves at the east end of  
Trench 3 (looking west)

## Appendix 1: Context data

Summary list of contexts. The • symbols in the columns at the right indicate the presence of finds of the following types: P pottery, B bone, M metals, F flint, S slag, O other materials.

No	Description	P	B	M	F	S	O
1	Topsoil	•	•	•			•
2	Modern yellow gravel deposit						
3	Crushed brick deposit						
4	Made ground						
5	Re-deposited graveyard soil		•				
6	Graveyard soil		•	•			•
7	Tarmac surface of car park						
8	Brick rubble						
9	Concrete foundation slabs						
10	Concrete surface						
11	Made ground						
12	Crushed brick deposit						
13	Made ground						
14	Grey gravel deposit						
15	Re-deposited graveyard soil		•				
F16	Cut of service pipe trench						
17	Fill of Grave 2						
F18	Cut of Grave 2						
19	Fill of Grave 1						
F20	Cut of Grave 1						
21	Yellow sand deposit						
22	Fill of Grave 4						
F23	Cut of Grave 4						
24	Fill of Grave 3						
F25	Cut of Grave 3						
26	Fill of Grave 6						
F27	Cut of Grave 6						
28	Fill of Grave 5						
F29	Cut of Grave 5						
30	Fill of Grave 12		•				
F31	Cut of Grave 12						
32	Fill of Grave 13		•				
F33	Cut of Grave 13						
34	Fill of Grave 14						
F35	Cut of Grave 14						
36	Fill of Grave 11						
F37	Cut of Grave 11						
38	Fill of Grave 10		•				
F39	Cut of Grave 10						
40	Fill of Grave 9		•				
F41	Cut of Grave 9						
42	Fill of Grave 8						
F43	Cut of Grave 8						
44	Fill of Grave 7		•				
F45	Cut of Grave 7						
46	Natural						

## Appendix 2: Data tables

Table 2.1: Pottery

Trench	Context	Type	Number	Weight	ENV	Part	Form	Date range	Notes
1	5	Creamware	1	1	Rim	Plate	U/Dec	LC18th - EC19th	Late Creamware with tripod stilt scars
1	5	Late Redware	1	1	Handle	Hollow ware	U/Dec	C19th	
1	5	Sponge printed ware	1	1	Profile	Plate	Blue sponge printed motif around rim	c.1840 +	Blackened on underside
1	5	Transfer Printed Whiteware	2	1	Rim	Chamber pot	Floral border on top of rim, rural scene externally	MC19th - EC20th	
1	5	Transfer Printed Whiteware	1	1	BS	Plate	Willow III border	MC19th - EC20th	
1	5	Yellow Glazed Coarseware	1	1	Rim	Pancheon	White slip internally	C19th - EC20th	
1	5	Yellow Glazed Coarseware	1	1	BS	Dish	Diffuse green stripes on white slip under clear glaze internally	LC18th - C19th	
3	15	CBM	1	1	Fragment	Tile	U/Dec	Undated	
3	15	Sandy ware	1	1	BS	U/ID	Green glaze internally, yellow glaze externally	?Post-medieval	
3	U/S	Crucible	1	1	Fragment	Crucible	U/Dec	C18th - C19th	Probably a crucible from a glass factory
3	U/S	Fine Redware	1	1	BS	Hollow ware	U/Dec	LC18th - C19th	[Discarded]
3	U/S	Late Blackware type	1	1	BS	Hollow ware	Black glaze internally and externally	C18th - EC19th	[Discarded]
3	U/S	Stoneware	2	1	BS	Bottle	Printed label, '...T Henderson' from a local beverage supplier	MC19th - EC20th	[Discarded]
3	U/S	Tin Glazed Earthenware	1	1	Base	Hollow ware	Blue band above splayed base	LC17th - C18th	[Discarded]
3	U/S	Transfer Printed Whiteware	1	1	Base	Carver/server	Part of a printed maker's mark and a red painted serial number on underside	MC19th - EC20th	[Discarded]
3	U/S	Transfer Printed Whiteware	1	1	Base	Carver/server	Blue-grey floral design int., part of a stamped maker's mark ext.	MC19th - EC20th	[Discarded]
3	U/S	Whiteware	1	1	Fragment	Sanitary ware	U/Dec	LC19th - C20th	[Discarded]
3	U/S	Yellow Glazed Coarseware	1	1	Rim	Pancheon	White slip internally	C19th	[Discarded]
		<b>Total</b>	<b>20</b>	<b>18</b>					



Table 2.2: Clay pipes

Trench	Context	Number	Description
3	U/S	2	2 complete bowls, 1 plain with rim milling and impressed Dublin (rear of bowl), 1 with scallop and dot decoration
3	U/S	5	bowl fragments
3	U/S	10	stem fragments, 1 with flat heel and part bowl
3	15	2	stem fragments

Table 2.2: Conservation

Trench	Context	Material	Object	Condition	Quantity	Observations	XR Number
3	U/S	Glass	fragments	stable	2	manufacturing waste	none
3	U/S	Glass	fragments	stable	18	manufacturing waste	none
3	U/S	Glass	vessel frags	stable	6	includes complete bottle	none
3	U/S	Glass	fragments	stable	9	manufacturing waste	none
3	U/S	Copper Alloy	rolled pierced sheet	lightly corroded/stable	1		5441
3	U/S	Copper Alloy	?shroud pins	highly corroded/stable	4	includes textile frags	5441
3	U/S	Iron	nails	moderately corroded/stable	2		5444
3	U/S	Iron	nails,screw,?coffin fitting,handle	moderately corroded/stable	12	mineralised wood on nails	5444/45/46
3	15	Glass	fragments	stable	2	manufacturing waste	none
3	15	Iron	nail	highly corroded/stable	1		5444
1	5	Glass	fragments	stable	16	manufacturing waste	none
1	5	Glass	vessel frag	stable	1		none
1	5	Copper Alloy	cigarette lighter	lightly corroded/stable	1	chrome or nickel plated CuA	none
1	6	Iron +	coffin furniture	highly corroded/stable	1	?Sn plated on front,includes textile & mineralised wood	5442/43
1	6	Copper Alloy/wood	coffin furniture	moderately corroded /wet	1	wet wood with domed CuA studs	5443

**Table 2.4: Glass**

Trench	Context	Number	Description
3	U/S	1	complete square sided bottle in very light green metal, corners bevelled. Possibly a sauce bottle <i>[Discarded]</i>
3	U/S	1	complete, except for chip at top, beer bottle in dark brown metal. Lip for wired-on cork. Sides unmarked but base has indistinct embossed mark. 'PINT' visible <i>[Discarded]</i>
3	U/S	1	fragment from base of dark green bottle, embossed mark in middle <i>[Discarded]</i>
3	U/S	1	fragment of flat sided bottle, bright blue green metal <i>[Discarded]</i>
3	U/S	1	fragment of straight sided bottle, possibly medicinal, light green metal <i>[Discarded]</i>
3	U/S	1	Fragment of mineral bottle with embossed mark.. 'SHIELDS' at the bottom, part of a motif above with word 'MARK'. Possibly a lighthouse (waves at bottom and straight side above)
1 & 3	U/S	24	Glass making waste. Some may be cullet (waste glass for recycling). One piece has kiln lining material attached
3	U/S	1	thin white glass stirring rod with spiral twist
3	U/S	1	thick greyish white metal twisted rod
3	U/S	1	fragment of furnace lining with one glazed surface
1	5	15	glass making waste . These include 2 pieces of cullet; 5 fragments (4 joining) of spillage; 8 fragments of furnace waste
3	15	2	2 small 'runs' of glass – from manufacture/reprocessing

**Table 2.5: Metal**

Trench	Context	XR	Quantity	Description
1	5	-	1	cigarette lighter chrome/nickel plated copper-alloy; stamped 'AUSTRIA / IMCO 677R'
1	6	5442–5443	1	copper-alloy coffin grip with wood and covering textile attached (grip different to that from u/s)
1	6	5443	1	fragment of wood with domed upholstery copper-alloy nails
3	15	5444	1	iron nail
3	U/S	5446	1	coffin grip
3	U/S	5441	1	rolled pierced copper-alloy sheet
3	U/S	5444	1	long nail
3	U/S	5444	1	screw (frag)
3	U/S	5445	1	fragment of wood with nails or fitting? heavily encrusted
3	U/S	5444	9	iron nails
3	U/S	5446	1	slag?
3	U/S	5441	3	copper-alloy shroud pins

**Table 2.6: Animal Bone**

Trench	Context	Animal	Part	Notes
1	U/S	cow	ast	
1	U/S	cow	upm3	in wear
1	U/S	cow size	rib	pn, chopped
1	U/S	horse	rib	
1	U/S	cow	ast	
1	U/S	cow	upm3	in wear
3	U/S	cow	aph	pf
3	U/S	cow	fem	worn, dist chewed
3	U/S	cow size	rib	pf
3	U/S	s/g	mc	
3	U/S	s/g	ish	
3	U/S	s/g	rad	pf
3	U/S	s/g	tib	pn
3	U/S	sheep size	rib	pf
3	U/S	sheep size	rib	pf
3	U/S	sheep size	vl	cn
3	U/S	pig	fnt	
3	U/S	pig	rad	pj
3	U/S	cat	skele?	hum, tib&fib, cal all unfused
3	15	cow	aph	pf
3	15	cow	hum	df, chopped

**Table 2.7: Gravestones**

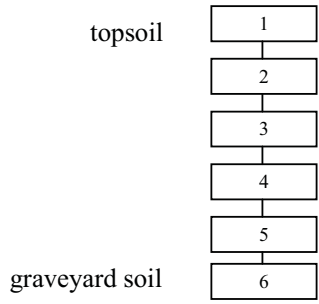
Trench	Context	Part	Quantity	Description
1	U/S	base	1	base of headstone with tooling on three sides <i>[Reburied]</i>
1	U/S	base	1	broken corner of headstone base, unmarked <i>[Reburied]</i>
1	U/S	side	3	corner and 2 side pieces of tombstone with beveled upper edges <i>[Reburied]</i>
3	U/S	base	1	broken base of headstone with tooled panel on rear side <i>[Reburied]</i>
3	U/S	base	1	tooled base and bottom unmarked section of headstone <i>[Reburied]</i>
3	U/S	top	3	middle and two corner sections of headstone with chamfered edge <i>[Reburied]</i>

**Table 2.8: Human Bone**

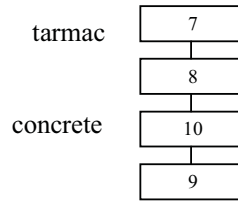
Trench	Context	No. Bags	Estimated No. Human Bone Fragments	Preservation Range	Average
1	5	1	10	0 - 2	2
1	6	10	40	0 - 5	2
1	U/S	9	50-100	0 - 3	2
3	15	9	150-200	0 - 5+	2/3
3	U/S	11	150-200	0 - 4	2/3
	<b>Total:</b>	<b>40</b>	<b>400-550</b>	<b>Overall: 0 - 5+</b>	<b>2</b>

### **Appendix 3: Stratigraphic matrices**

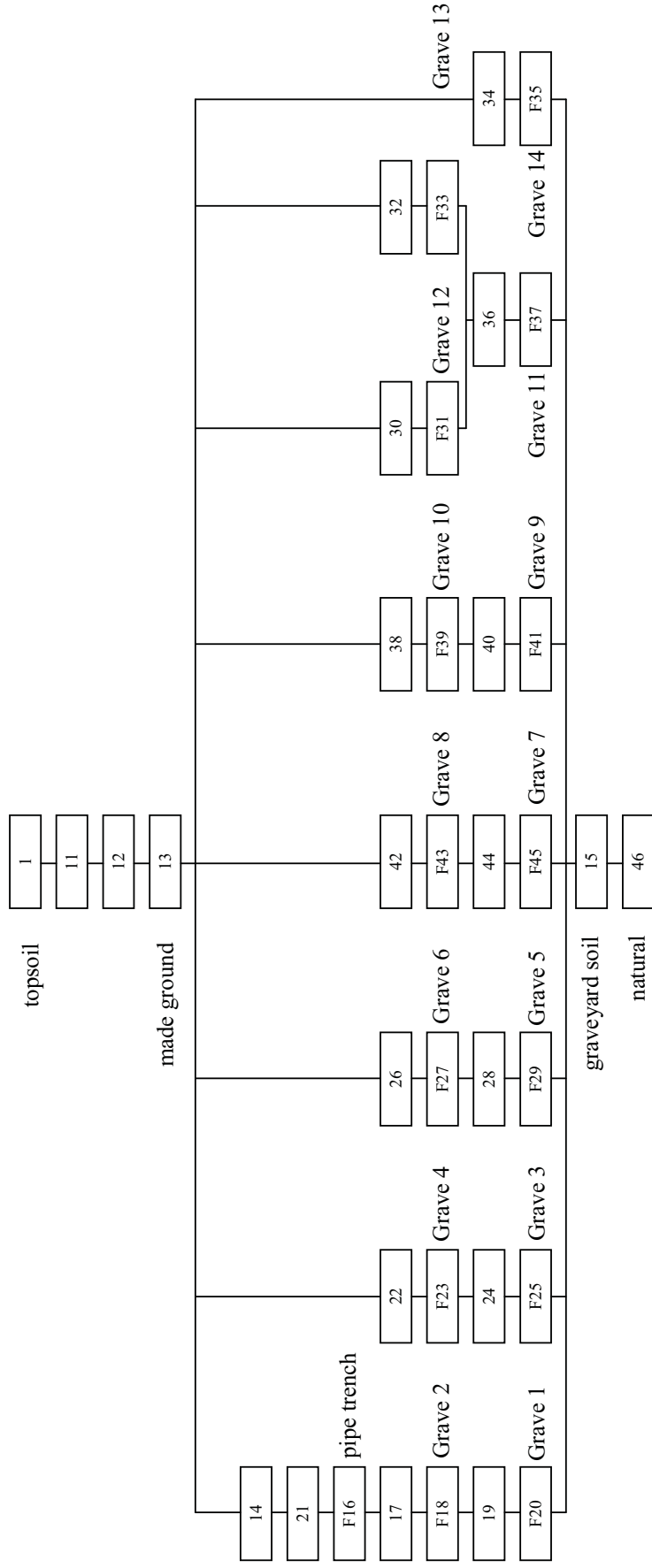
#### **Trench 1**



#### **Trench 2**



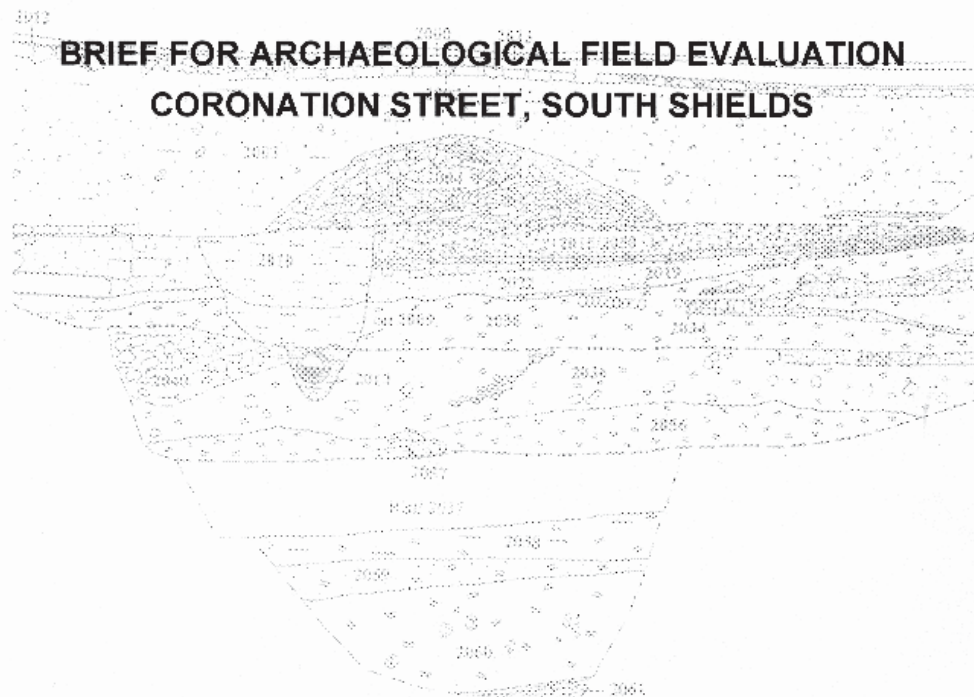
### Trench 3



## Appendix 4: Project specification



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September 2005

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## **CORONATION STREET, SOUTH SHIELDS: BRIEF FOR ARCHAEOLOGICAL FIELD EVALUATION**

### **1. BACKGROUND**

#### **1.1 The Site**

The proposed redevelopment site (NGR: NZ 360 670) lies in the centre of South Shields in the Metropolitan Borough of South Tyneside. The site is divided into three areas - Area A (west of Station Road), Area B (between Station Road, Corporation Street and Garden Lane) and Area C (between Waterloo Square and Garden Lane and the railway).

The site may have been occupied continuously since at least the early medieval period. A desk-based Desk-based Assessment of the archaeological potential suggested that there is also evidence for possible Roman and Saxon settlement and land use.

A burn or stream, apparently known as the Mill Dam Creek or the River Branin ran E-W through the three development areas. The stream, which was tidal as far as Garden Lane, was dammed at its western end before the mid-eighteenth century, creating a pool of water (the Mill Dam) to serve tide mills. The Mill Dam was infilled c.1816, and the stream or burn culverted at this date.

There are no Scheduled Ancient Monuments or Listed Buildings on or immediately adjacent to the site.

#### **1.2 Previous Work**

The Coronation Street redevelopment comprises four areas: A, B, C and D. These areas were the subject of a desk-based Desk-based Assessment, carried out for South Tyneside Borough Council in 1998 (*Coronation Street, South Shields, An Archaeological Desk-based Assessment, Tyne & Wear Museums 1998*).

A Project Design for Archaeological Field Archaeological Field Evaluation was subsequently prepared by ARCUS (*Interim Project Design for Archaeological Field Archaeological Field Evaluation at Coronation Street, South Shields, May 2000*). This focussed upon Site B as containing, on the basis of the desk-based Desk-based Assessment, the most identifiably significant archaeology.

#### **1.3 Aims and Objectives**

The site is proposed for extensive redevelopment, however, there are no plans to remove the in-filled deposits from the Mill Dam, and overall ground levels within areas D and B will be raised by grading down the existing mound. The scale of the proposed redevelopment nevertheless carries the potential for the destruction of archaeological features and deposits, the significance of which will need to be



assessed through archaeological intervention.

An Archaeological Field Evaluation is therefore required to establish the date, nature/significance, extent and quality of preservation of remains identified in the desk-based Desk-based Assessment as being of potential archaeological/historical importance.

Determining the possible survival of human remains on part of the site is of particular importance. If significant archaeological remains are identified in the Archaeological Field Evaluation, further work, possibly involving full open area excavation, may be recommended. This would form part of a later stage of archaeological mitigation.

The Archaeological Field Evaluation is also required to provide evidence for the character of the early landform of this part of South Shields through the identification of natural subsoil levels. However, the presence of deep ballast, deposits which are not proposed for removal, and the culverted burn are likely to make a full transect across the Mill Dam difficult to achieve.

The site is likely to contain waterlogged deposits and anaerobic preservation of organic remains is a strong possibility. Desk-based Assessment of the quality and potential for scientific analysis of environmental remains is an important objective in the Archaeological Field Evaluation phase. There will be close liaison with Jacqui Huntley, regional environmental archaeology monitor for English Heritage, to define research and sampling strategies for any further excavation on the site should the project move on to a further stage of archaeological mitigation.

#### **1.4 Programming implications of the Archaeological Field Evaluation**

Timetabling of the Archaeological Field Evaluation is critical. The Archaeological Field Evaluation is intended to inform the Planning Authority of the need for and scope of further archaeological work (i.e. area excavation) or other mitigatory measures (e.g. rafting instead of close piling) if archaeologically significant remains are revealed.

Accordingly the Archaeological Field Evaluation will be undertaken well in advance of the commencement of redevelopment works and before finalisation of groundworks and foundation design.

## **2. AIMS OF THE ARCHAEOLOGICAL FIELD EVALUATION**

### **2.1 Trenches 1 and 2.**

The location of these trenches fulfils as closely as possible the criteria set out in paragraph 9.4.1 of the Desk-based Assessment, for a single trench measuring 5m x 20m.

Their location and extent is constrained by live services, existing structures and highway; consequently the surface area and depth - particularly of Trench 1 - will

vary as services and site conditions dictate. An anticipated surface area (at modern ground level) of approximately 10m x 10m will be investigated within each of the 'trench' areas, thus the hatched area shown on the revised trench location plan indicates the overall rather than specific area for investigation.

The trenches should be opened with due regard to the possible existence of live services, but should not require either the disconnection or undermining of any live services. At present the area outlined for the location of the evaluation trenches is heavily overgrown with established trees and undergrowth. The archaeological contractor should therefore liaise with the developer for the removal of this ground cover before trenching takes place. In accordance with the potential highlighted by the Desk-based Assessment, the key research aims of Trenches 1 & 2, are:

- To determine the precise position of graveyard boundary wall
- to ascertain the nature of the 18<sup>th</sup> century graves sealed by the re-deposited ballast in 1816
- to establish the O.D. level of natural subsoil

The possible survival of human remains on this part of the site constitutes the most sensitive aspect of the proposed development. The full implications of the cemetery were, however, arguably inadequately addressed in the Desk-based Assessment, which focused upon pre-1816 burials.

In the absence of any Desk-based Assessment evidence to the contrary, burials may also have taken place within the ballast dumping after 1816 - when plan evidence suggests the graveyard was enlarged as well as raised - and as late as 1856 when the graveyard went out of use. If such burials exist they may, owing to their more recent date, present particular environmental hazards.

In addition, if the suggested Saxon origin of St. Hilda's church is correct, the cemetery may contain burials dating back over 1000 years. If such early remains - and those of medieval and 17<sup>th</sup> - 18<sup>th</sup> century populations - do survive within the development site, they are of high archaeological and scientific importance.

No burials should be exhumed in the Archaeological Field Evaluation stage, the object of which should be to establish

- The precise location of the perimeter wall and extents of the cemetery
- If human remains of any period survive within this part of the development area
- The depth below present ground level at which human remains lie
- The form (coffined or earth-fast; lead containers), state of preservation (fully skeletalised or soft tissue) and density of burials

Trenches 1 & 2 should therefore attempt to locate the graveyard wall(s) shown on 18<sup>th</sup> and 19<sup>th</sup> century plans and grave cuts, if recognizable, will be identified and defined by careful hand excavation.

If individual grave cuts are not distinguishable at surface level, a series of trenches should be dug to pick up the burial zone. A sample of grave cuts should be emptied by hand to the level of the inhumation, which should then be investigated sufficiently to establish the degree of preservation and potential for Osteological analysis. No human remains are to be lifted at this stage.

The Archaeological Field Evaluation trench will establish the full implications for subsequent archaeological clearance of any surviving human remains either below, or within, the ballast dumping., and provide information for a subsequent application for a Home Office licence to remove any human remain.

### **2.2 Trench 3**

This trench is required to meet the objectives set out in paragraph 9.4.2 of the Desk-based Assessment, which recommended a machine-cut trench 10m E-W x 50m, on the northern edge of the Mill Dam. Trench 3 (c.10m x c.20m) has been moved from the location recommended in the original project design and relocated within the area of the existing car park.

Though no archaeological objectives for a trench in this location were specifically stated in the Desk-based Assessment, it is presumed by extrapolation that the objective of this part of the Archaeological Field Evaluation was to seek evidence for medieval or earlier settlement along the north bank of the Mill Dam. Such evidence may only survive as subsoil-cut features -pits, ditches, etc. containing datable artefacts.

If stratified deposits of archaeological significance are encountered, these will be manually excavated or sampled in accordance with the Methods Statement as ground conditions permit.

As the car park will continue to be used at the time excavation is taking place it is important that the trench is situated towards the extreme NW corner so as to minimise obstructions.

## **3. ARCHAEOLOGICAL FIELD EVALUATION REPORTING**

The results of the Archaeological Field Evaluation will be reported upon. As a minimum this will take the form of a Client copy and a copy for deposition with the County Archaeologist in the County Sites and Monuments Record.

If the Archaeological Field Evaluation indicates the need to move to a further stage mitigation, full reporting of the Archaeological Field Evaluation will be deferred until all archaeological site works are completed and form part of the final post-excavation analysis and reporting.

In this event, an interim summary of the results of the Archaeological Field Evaluation should be produced to justify and inform the implementation and costs of additional archaeological works.

## **4 METHODS STATEMENT**

### **4.1 Excavation technique**

Trenches should be opened as the archaeological contractor determines, taking into account the potential of the existence of underlying live services. Should a mechanical excavator be used it must be done so under strict archaeological supervision and only down to the level of identifiable archaeological deposits, using wheeled or tracked plant. Use of a toothed bucket and hydraulic breaker is acceptable for breaking-out concrete and tarmac surfaces, but must be discontinued once soil deposits are encountered and a toothless (ditching) bucket used instead.

Any mechanical excavation should be ceased when either stratified archaeological deposits (for these purposes pre-1850), or natural boulder clay is reached. Further use of machine excavation within the level of archaeological deposits may be acceptable in order to rapidly remove extensive or deep deposits or rubble-filled features. Such excavation should only be undertaken in a controlled manner under archaeological supervision.

Where stratified archaeological deposits are reached, all subsequent excavation should be undertaken manually, using hand tools to remove deposits and features in a controlled and fully recorded stratigraphic sequence. It is anticipated that the depth of ballast deposits should be require the trench sides to be stepped/and or shored.

Trenches should be enclosed with temporary fencing (Heras type), with appropriate warning signage. If the excavations reveal evidence of human remains, the fencing should be covered with opaque Mona flex tarpaulins. Human remains should not be left exposed outside working hours. If necessary, a static on-site security presence should be arranged.

### **4.2 Finds recovery**

All finds (artefacts and ecofacts) should be recovered and recorded on pro-forma finds recording sheets. Subsequent retention will be dependent upon a number of criteria, including contextual integrity, and volume of material. This will need to be explicitly assessed in conjunction with a named specialist (see paragraph 5 below).

Finds should be washed, dried and marked with the site code and context number. Unstratified and insecurely stratified material may, unless of intrinsic interest, be discarded after recording. Ceramic building material, if recovered in bulk, may be identified to type, recorded and sorted on site, and a representative sample of the most complete forms retained.

Spot-dating of finds and interim assessment of environmental potential should be undertaken during the Archaeological Field Evaluation in order to rapidly inform any requirements for further work.

### **4.3 Recording**

All deposits and features, including those removed mechanically, should be allocated context numbers in a running sequence. A full written description of each context should be entered on a pro-forma context recording sheet. Contextual relationships should be recorded in the form of a Harris matrix. The matrix should be constructed in the course of the on-site stage of the Archaeological Field Evaluation.

The drawn record must consist of plans, sections, and elevations where relevant. Plan scale should normally be 1:20, sections 1:10 or 1:20 dependent upon complexity, and elevations at 1:10.

Polydraw cut sheets (A4 or A3) should be used, clearly labelled with the name of the archaeological contracting organization, site code, area/grid location, context number, orientation and scale.

All contexts and features should be levelled, related to Ordnance datum, and the reduced levels marked on the drawn record.

A photographic record of the Archaeological Field Evaluation should be taken using colour print, colour transparency and black and white print principally for structural and features. A clearly readable metric scale and photo-board showing context number, orientation and site code should be included in record photographs.

### **4.4 Sampling**

The site is likely to contain waterlogged deposits and anaerobic preservation of organic remains is a strong possibility. Desk-based Assessment of the quality and potential for scientific analysis of environmental remains is an important objective in the Archaeological Field Evaluation. There should therefore be close liaison with Jacqui Huntley (Regional Scientific Advisor for English Heritage), during the Archaeological Field Evaluation in order to define appropriate research and sampling strategies.

All waterlogged deposits should be bulk sampled (minimum 30 litres) for subsequent macro/micro analysis for plant remains, micro-organisms and fish bone.

All stratified contexts should be assessed during excavation for environmental or industrial residue potential, and sampled where appropriate and safe. If undisturbed ditch or pit fills are encountered, as a minimum samples should be taken from the uppermost, medial and lowest deposits.

Waterlogged or desiccated timber should be recovered and stored in appropriate conditions and assessed for species identification and dendrochronology. Mr Ian Tyers, ARCUS Dendrochronologist, should undertake dendrochronology assessment.

If the results of the Archaeological Field Evaluation indicate a requirement for further archaeological excavation, full processing and analysis of finds and samples may be deferred and undertaken as part of the final post-excavation analysis.

#### **4.5 Scientific dating - on site**

On site scientific dating techniques (e.g. archaeomagnetic dating) should be employed, where appropriate.

#### **4.6 Staffing and equipment**

The site is anticipated to include medieval, post-medieval and industrial deposits, features and finds, and the Archaeological Field Evaluation should be undertaken by a suitably qualified and experienced archaeological team, with demonstrable specialisms in all of these areas.

### **5 MONITORING**

At least 1 weeks' notice of the commencement of on-site works will be given to the County Archaeologists. Access to the site will be afforded to the County Archaeologists at all times for the purposes of monitoring and advice.

### **6 HEALTH & SAFETY**

Health and Safety considerations are of paramount importance. The archaeological contractor will conform to the codes of practice set out by IFA and SCAUM, as well as COSHHS and CDM regulations. The archaeological contractor will be required to produce a detailed risk assessment prior to the commencement of site work.

There is the potential for significant levels of contaminants within the soil. It is anticipated that contamination will be monitored as part of the general site investigations on behalf of the Client and varying levels of personal protective equipment may be required. As a minimum level of precaution, safety gloves should be worn at all times when in contact with the soil, hand to mouth contact on site avoided, and provision for hand washing made in the site accommodation.

### **7 ARCHIVE & PUBLICATION**

The records and finds from the Archaeological Field Evaluation should be collated into a cross-referenced archaeological archive. Arrangements will need to be made for this archive to be deposited in a suitable local museum.

If the results of the Archaeological Field Evaluation are of archaeological significance a duplicate copy of the archive will be made for the National Monument Record (NMR). Consideration should also be given to depositing a digital archive with ADS (York).

Appropriate arrangements should be made for the results of the Archaeological Field Evaluation, and any subsequent archaeological recording work to be published in a local, or national period archaeological journal, or in monograph form needs be. Details of the publication strategy will be agreed with the office of the County Archaeologist.